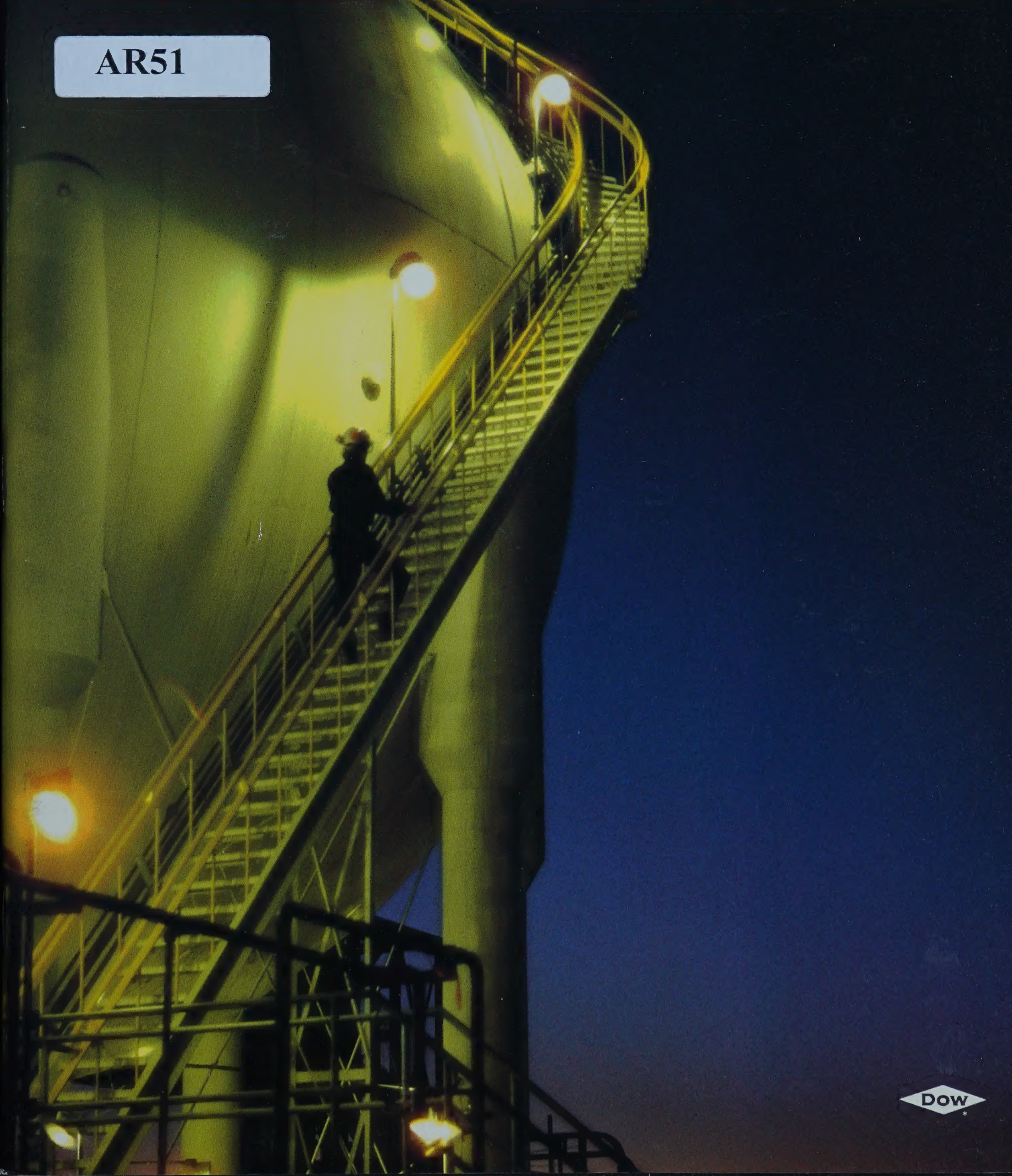
Dow Chemical of Canada, Limited

1980 Report



Dow

On peut se procurer la version française de ce rapport en s'addressant à
Dow Chemical of Canada, Limited, case postale 1012, Sarnia (Ontario), N7T 7K7.

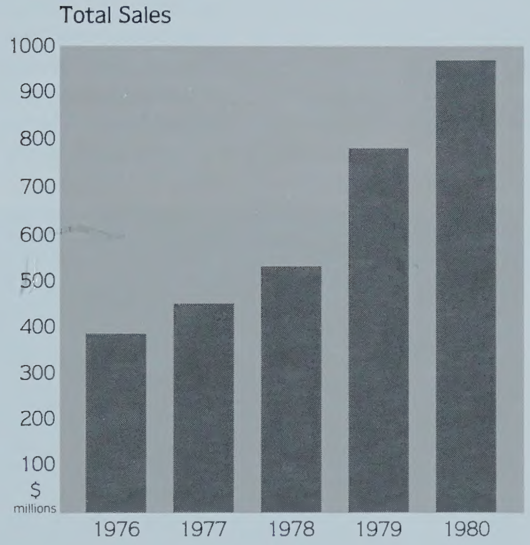
About the cover:

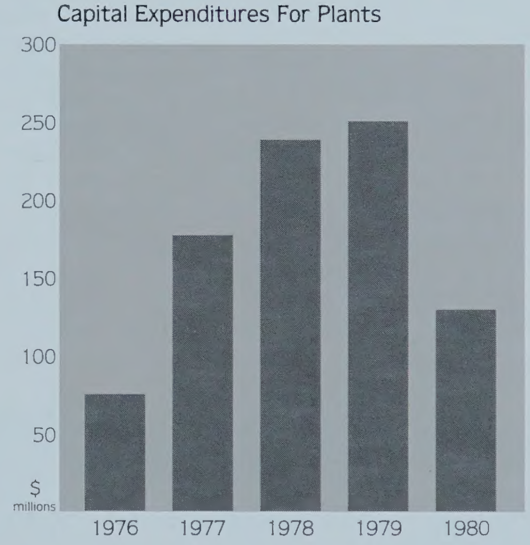
Insulated low temperature storage sphere for chlorine at the Fort Saskatchewan, Alberta plant contains only a few days supply as inventory on site. Its special design prevents vapor loss to the atmosphere. Numerous other safety features have been incorporated, part of the high priority the company places on this aspect of operations.

HIGHLIGHTS OF THE YEAR...

	1980	1979	% Change
	in millions of dollars unless otherwise stated		
Net Sales - Domestic	$ **835.6**	$ 718.5	+ 16.3%
- Export	**133.5**	62.5	+113.6%
Total	**969.1**	781.0	+ 24.1%
Operating Margin	**95.2**	86.8	+ 9.7%
Net Income	**27.9**	113.7[1]	- 75.5%
Capital Expenditures For Plants	**127.5**	254.1	- 49.8%
Total Assets (at year-end)	**1,519.1**	1,399.0	+ 8.6%
Employees (actual number at year-end)	**3,982**	3,747	+ 6.3%
Wages, salaries and benefits	**112.3**	99.4	+ 13.0%

[1] 1979 net income includes a gain of $65.3 million realized from the sale of resource properties.





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where we came from

Herbert H. Dow, who was born in Belleville, Ontario, started The Dow Chemical Company in Midland, Michigan in 1897. The company was originally established to produce chlorine needed in manufacturing bleach.

Over the ensuing decades Dow expanded steadily and diversified into a wide range of chemicals for industry and agriculture. During the second world war The Dow Chemical Company made a significant contribution to the war effort, primarily in styrene production for synthetic rubber and magnesium metal for aircraft and plastics.

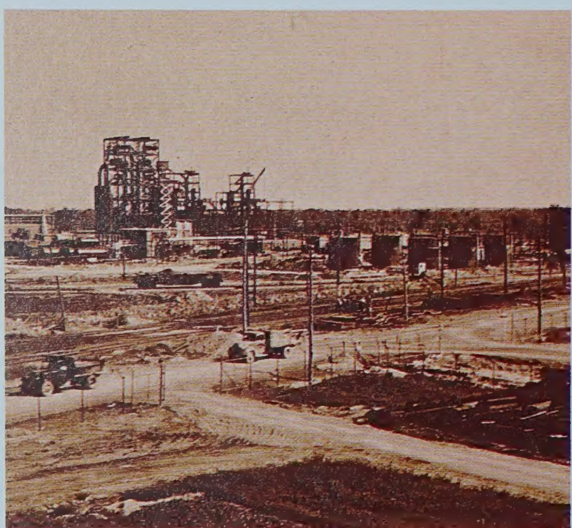
In 1942 the government of Canada asked Dow to design, build and operate a styrene monomer plant as part of the Polymer Corp. synthetic rubber operation in Sarnia, Ontario.

Following the war Dow purchased its own property in Sarnia which is now a 20-plant complex occupying about 186 hectares (460 acres). The plants at the Sarnia Division are divided into six production groups: plastics, hydrocarbons, chloralkali, design polymers, chlorinated products and energy systems. It is the most diversified petrochemical operation in Canada today.

In 1976 Dow undertook a major chemical project in Western Canada. The project consisted of five world-scale production plants in Fort Saskatchewan, Alberta and participation in the Cochin Pipeline that now stretches from Alberta to Sarnia. Dow's direct commitment to this petrochemical development totalled approximately $600 million in the period 1976 to 1980.

Dow Chemical of Canada, Limited is one of Canada's major chemical companies and has seven manufacturing locations in Ontario, Quebec, Alberta and British Columbia. Dow Canada is a wholly owned subsidiary of The Dow Chemical Company, which is the second largest chemical company in North America and the sixth largest in the world.

Dow's Canadian plants produce chemical intermediates, electrochemicals, inorganic and organic chemicals, plastic resins, insulation materials, packaging materials and pharmaceuticals. The company also sells a wide range of imported products. In addition, Dow Canada is active in oil and gas exploration and Dowell oil and gas well services. Sales offices are in Vancouver, Calgary, Edmonton, Winnipeg, Toronto, Montreal and Halifax.



1946: Site development for Dow's original Sarnia plant, a batch process polystyrene resin unit. Polymer Corporation's styrene monomer plant in background.

1980: Dow's burgeoning facility at Fort Saskatchewan, Alberta, about 24 km north east of Edmonton.

This is our first public report since Dow Chemical of Canada was incorporated in 1942. Though our Canadian performance has been reported since then as part of Dow's global annual reports, I believe a more complete voluntary disclosure will be interesting to the many people the company serves.

Dow Canada is a wholly owned operating unit of our American parent, The Dow Chemical Company. Dow came here 39 years ago to provide certain basic chemicals for Canada's growing economy. In those early years till the '60s we built small-scale plants designed to serve only the domestic market. In Canada's comparatively small market and difficult cost position it was not possible to justify larger scale operations. Indeed, our activities in those days concentrated on sustaining a viable Canadian business in the face of strong competition from imported chemicals.

But during the '70s Canada's burgeoning western gas reserves offered a possibility that Dow Canada could become a major world-competitive chemical producer. We seized the opportunity and the financial results reported here indicate the scale of the Canadian production commitment we made in Alberta. In the past five years we have invested $878 million in new world-scale plants and improvements to existing facilities - about twice the total invested in the previous 30 years. Our employee count rose from 2,800 in 1975 to almost 4,000 today. And we are now contributing substantially to this country's export trade.

At the time, the Alberta Project was considered a high-risk undertaking. We are confident the years ahead will produce good returns though, to date, start up costs and depreciation have resulted in a net loss for the Alberta Project. The financial statistics reflect the impact of this rapid expansion on our earnings.

This leap forward has been the result of the outstanding skills and effort of our people - 99 percent Canadians - engaged in project negotiations, engineering, construction, manufacturing, marketing, sales, research and development, distribution and all other functions required to make such growth successful while maintaining our regular business. We're proud of every one of them and of the help provided by Dow people from the other operating areas of the company.

Most importantly, our success was accompanied by continued excellent records in safety, industrial hygiene, environmental protection and transportation of hazardous goods.

We are convinced that a major industrial opportunity exists for Canada and for Dow Canada. The opportunity flows from the ethane in Canada's huge excess of natural gas reserves over demand, primarily in the West. It ensures Canada a long term world competitive position in gas-based chemicals.

The federal government's National Energy Program recognized this opportunity for further gas-based petrochemical development. But other facets of the Program - such as the artificially low oil price regimen, the oil industry Canadianization thrust, and federal/provincial confrontations over shares of resource revenue - have had a decidedly detrimental effect on Canada's economic health and industrial development. It is urgent that these problems be resolved by modifying the National Energy Program not only to encourage increased oil exploration but to allow all domestically based industry to grow without excessive government involvement.

At a time when foreign ownership is of political concern, Dow Canada is an excellent example of how the ambitions of Canada and Canadians can be well served by a multinational company. The jobs of about 400 of our employees are directly dependent on our growing export capability. Our products are sold into dozens of countries, including the U.S., by a dedicated global Dow sales force based at 168 sales offices around the world. They sell products from 125 manufacturing locations worldwide. Dow Canada enjoys a marketing force we could not otherwise afford.

Two hundred Dow Canadians are employed here in process and product research and development. Within our global operations, their activities constitute a major research center for several projects.

The financial resources of our parent company are essential to our commitments to this country. Our spending since 1975 greatly exceeded our cash flow since Dow came to Canada. Without this support there would be no ethylene-based Alberta petrochemical industry today.

No less important are the enhanced career opportunities Canadians enjoy by being part of a multinational. There are 22 Dow Canadians on challenging technical and management assignments in seven countries, a fitting endorsement of the quality of Canadian know-how and a future benefit to Dow Canada, operating as we do in a world competitive environment.

Canada's enviable energy resources have given it a unique opportunity to develop a diversified world-competitive chemical industry. Dow Canada will continue to play a major role in realizing that opportunity.

Jim Hay

James M. Hay
President and Chief
Executive Officer

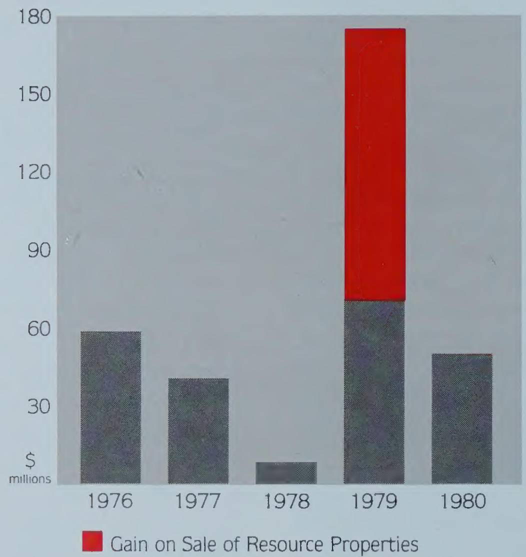
record sales but net income down

While sales reached a record high in 1980, net income fell well below 1979 levels. Net income for 1980 was $27.9 million, down about 75 percent from the $113.7 million in 1979, but 1979 included a one-time sale of certain oil and gas assets. Also in 1980 there were unrealized foreign exchange losses that reduced profitability.

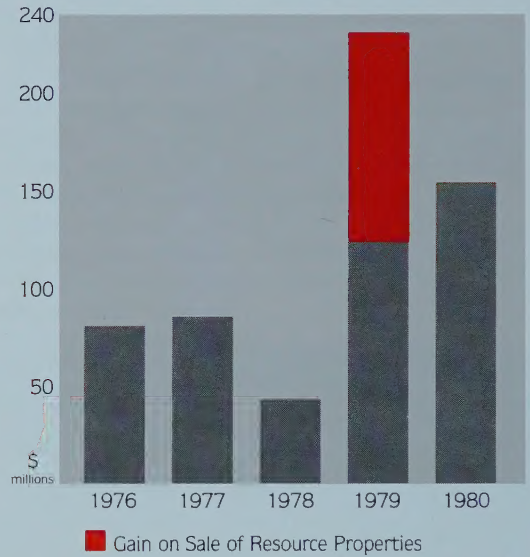
Dow continued to invest heavily in Canada. During 1980 the company spent $127 million in new facilities, as well as plant expansions and modernization bringing the total investment in plants, chemicals, plastics and related businesses to $1,191 million at original cost. In addition to investing in fixed assets, Dow Canada increased working capital by $126 million, principally for inventories related to new plants in Western Canada. Funds for these expenditures came from internal cash generation of $154 million and loans from our parent company.

Over the last five years, the period during which the Alberta project was completed, Dow Canada has spent $878 million for fixed assets and increased working capital by $225 million. Over this same period cash shortfall resulting from these expenditures, as well as from oil and gas investments, was covered by loans of $411 million from The Dow Chemical Company and $250 million financed by Canadian banks.

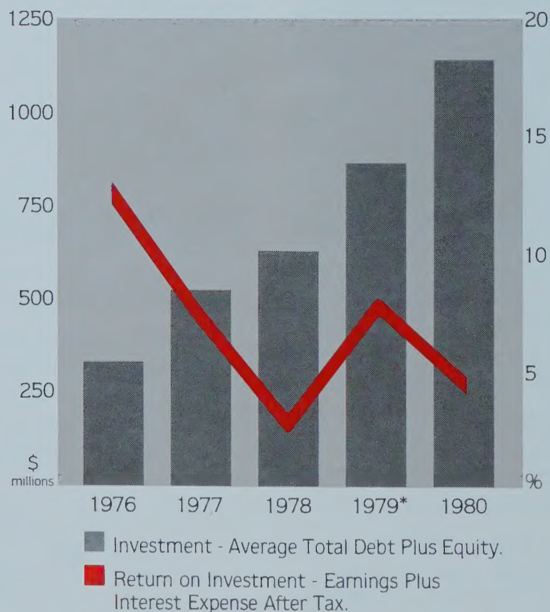
Profit Before Tax



Cash Flow from Operations

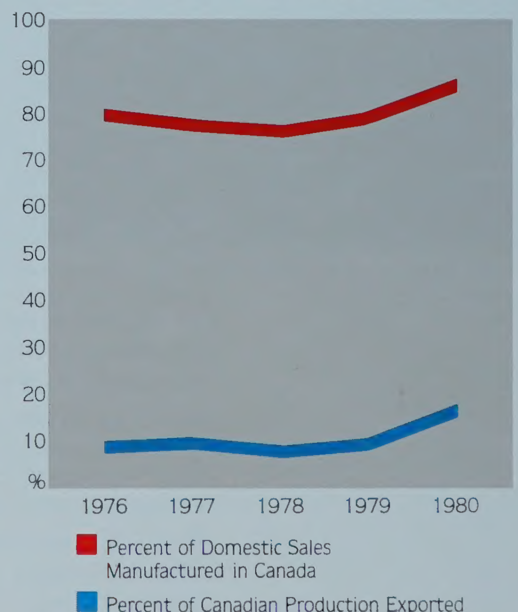


Investment & Return



*1979 - Excludes gain of $65.3 million on sale of resource properties.

Domestic/Export Sales: Canadian Production



(Right) Reaction tower at our Fort Saskatchewan plant site.

COMMERCIAL REPORT...
record sales despite recession year

Although the Canadian economy opened 1980 on a bullish note, a dramatic turndown in the second quarter and sluggish performance in the last half resulted in little growth for the total year. In spite of the slow economy our sales rose to a record $969 million, up 24 percent from $781 million in 1979. Sales volume grew more than four times as fast as the "real" Canadian gross national product. This growth came primarily from replacement of imports, as well as new developments in the export and domestic markets by both Dow Canada and its customers. Slower demand as the year progressed put pressure on market prices for some major products. That resulted in declines in our unit returns during the last half of the year while new plant start-up and depreciation costs were being met. That was partially offset by strong performance in other areas such as construction materials and chlor-alkali products.

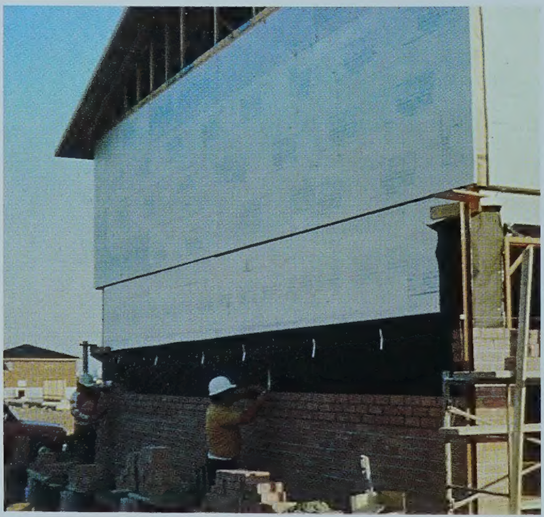
Costs of raw materials continued to increase throughout 1980. Hydrocarbons costs increased by 18 percent from last year, leading the price escalations of all raw materials purchased.

The Alberta Project was completed with the start up of the ethylene oxide/ ethylene glycol plant. Export sales doubled from 1979 levels, accounting for 23 percent of Dow Canada's chemical and plastic production in 1980. That figure is expected to grow significantly over the next several years. However, start-up costs and a weak world-wide vinyl chloride market resulted in the Alberta project not contributing to profit in 1980. It is expected to be a positive contributor in 1981.

1980 saw a wide variation in performance between different industries and geographic sectors within industries that utilize Dow products. While construction remained strong in the West, 1980 generally saw little growth in the construction industry. In spite of this, Dow Canada's sales of STYROFOAM* brand insulation materials were excellent. That was primarily the result of new energy conservation programs across the country and the introduction of new energy-conserving applications for our insulation products. The downturn in the North American auto industry in 1980 had a depressing effect on business for Dow products sold in that market. Sales of vinyl, polyols and glycol based engine coolant were significantly affected. That weakness, however, was countered by strong demand for these products in the textile, consumer, and oil and gas market sectors.

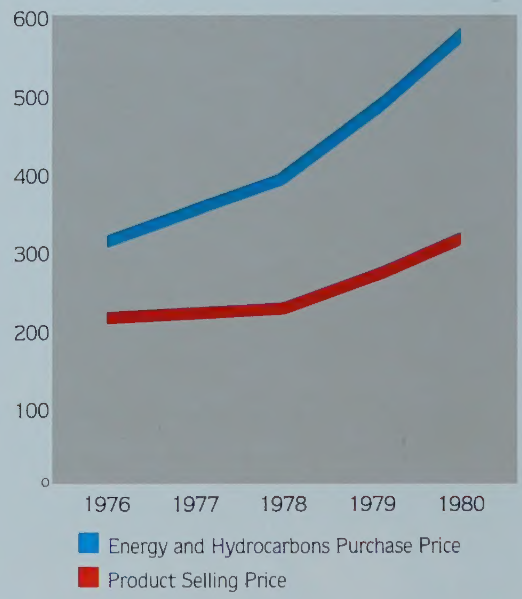
The company continued its leadership of the Vinyl Council of Canada, whose role is the promotion of products made from Canadian-produced polyvinyl chloride (PVC). Council members are all three Canadian producers of PVC and Dow Canada, producer of PVC's precursor, vinyl chloride monomer.

Dry conditions in Western Canada reduced markets for some agricultural chemicals. However, the success of TORDON* 202C brand herbicide resulted in encouraging new sales.



"Blue blanket" of Styrofoam SM insulating sheathing ensures fuel conservation in new or retrofit projects.

Energy Cost vs. Selling Price Indices
(1971 = 100)



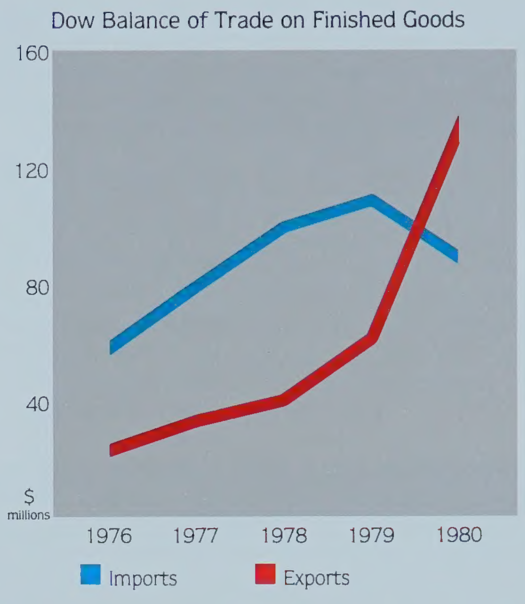
* Trademark of The Dow Chemical Company

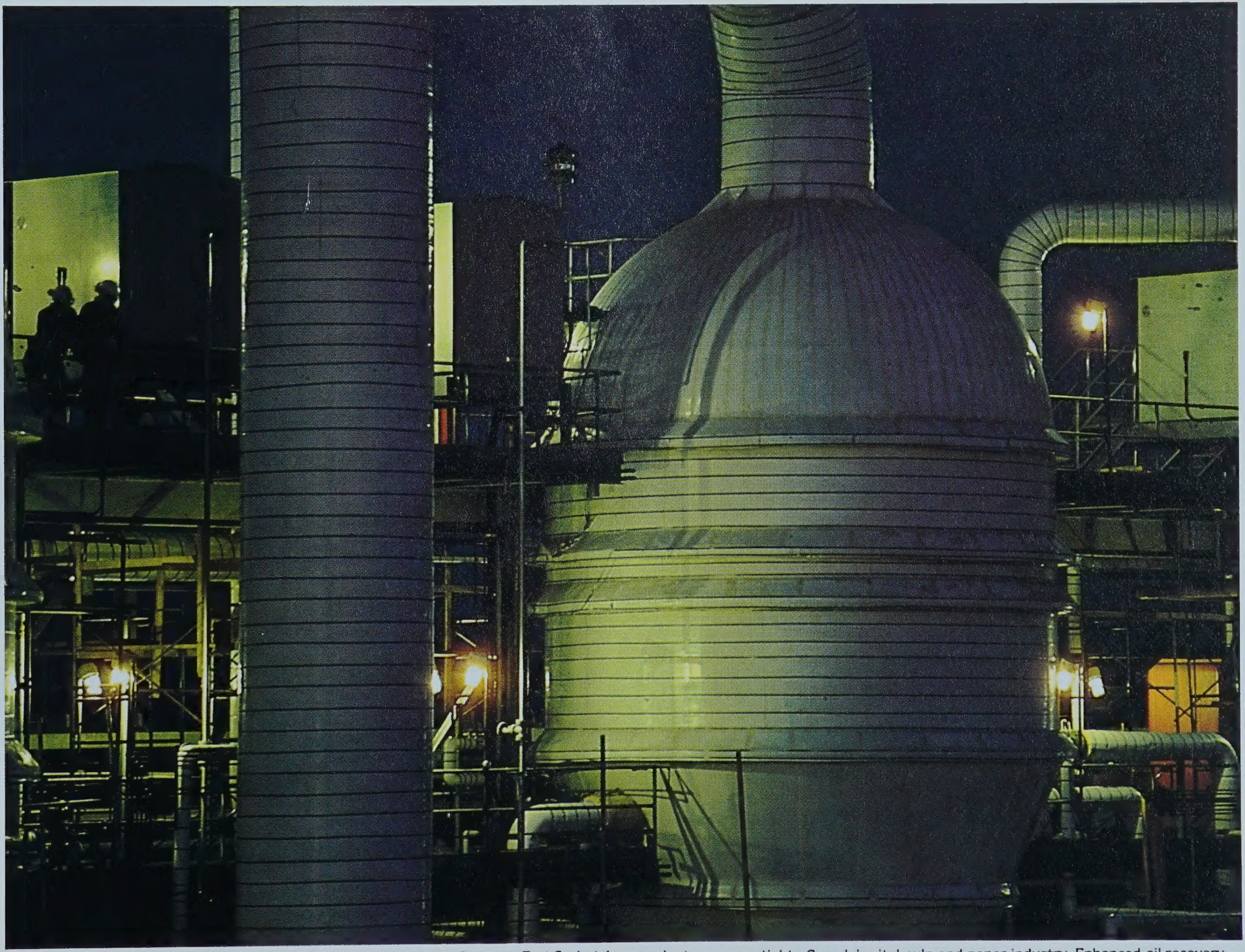
The pulp and paper industry turned in an impressive performance in 1980 and produced strong demand for caustic soda, chlorine and paper coating latexes.

Continuing market penetration of light metals has resulted in vigorous sales of caustic to aluminum producers and has increased magnesium sales. And strength in Canada's oil and gas industry netted an excellent year for our products for that industry.

The domestic plastics market did not show significant growth in 1980. However, our sales held up well, reflecting effective marketing activities by our fabricator customers in replacing historic imports with domestic production while making new penetration into the U.S. market.

Flexible Packaging operations at Weston, Ontario achieved improved results in 1980. This was due to increased market penetration, better plant performance and continued improvement in packaging industry profitability.





Caustic soda and chlorine from our Fort Saskatchewan plant are essential to Canada's vital pulp and paper industry. Enhanced oil recovery techniques employ caustic to get more out of old wells.

fixed asset base doubled...production up by 53 percent

The 2500 people involved in Dow Canada manufacturing ended 1980 with zero disabling injuries, our most notable achievement and one that clearly reflects the competence of our operations people.

Dow Canada manufacturing output increased 53 percent over 1979. Our production facilities ran at 86 percent of capacity for the year, supported by export sales through the international marketing organization of The Dow Chemical Company.

In 1980 Dow Canada's fixed asset base was more than doubled on completion of our Fort Saskatchewan, Alberta world-scale petrochemical plants. Those plants manufacture chlorine, caustic soda, ethylene dichloride, vinyl chloride monomer, ethylene oxide and ethylene glycol. In addition, utilities, site services, hydrocarbons storage and extensive distribution facilities were brought on line in 1980.

To provide the necessary raw material for these plants, Dow Canada helped design, build and start up a 1.2 billion-pound-per-year ethylene-from-ethane cracker under contract for Alberta Gas Ethylene Company Ltd. in Joffre, Alberta. Dow Canada has contracted to take all of this ethylene. The ethylene surplus over Alberta requirements is transported to our Sarnia plant complex via the 3040 kilometer Cochin Pipeline, completed in 1978, and run at capacity for the first time in 1979. Dow Canada owns about one third of that pipeline. The cracker and the Fort Saskatchewan facilities were built on schedule and for the authorized capital.

The Federal Government's National Energy Program, unveiled in October 1980, encourages the use of ethane and other liquefied petroleum gases derived from natural gas as feedstocks for petrochemical manufacture, and discourages the use of crude oil derivatives for that purpose.

This Program recognizes the soundness of our decision to support the development of ethylene production facilities in Alberta.

In 1980 more than $36 million was spent at the Sarnia Division for various capacity upgrading, safety, health and environmental projects to maintain our competitive position. The Sarnia site is the largest integrated chemical/plastics manufacturing facility in Canada.

Varennes, Quebec, along with our other STYROFOAM* brand insulation production plants in Weston, Ontario and Fort Saskatchewan, Alberta continued to grow, spurred by increased demand for energy conservation. In support of our Quebec markets, construction was started on a new latex plant and research facility there. Both will be operational in 1981.

The Fort Saskatchewan site continues to grow. Announcement was made late in 1980 of a 400 million-pound-per-year DOWLEX* polyethylene plant scheduled to be on stream in the mid '80s. Expansions are also underway at Sarnia Division in polyethylene and other products.

The Engineering and Construction Services support group in Toronto is involved in these projects and in engineering and design associated with the second ethylene plant owned by Alberta Gas Ethylene Company Ltd.

Energy conservation is a key program throughout the chemical industry. Dow Canada, with its integrated power production and steam co-generation facilities, is a leader. From 1972 to 1980 the average energy used per pound of product produced has been reduced by 27 percent. That compares very favorably with the Canadian chemical industry, which reported a reduction of 21.4 percent in BTUs per pound of product produced over the same period.

Power plant, Sarnia Division: generating our own electricity and steam from natural gas fired turbines. Co-generation technology yields energy efficiency in 80 percent range, double conventional methods.

Ethylene oxide plant, Sarnia Division: precursor of ethylene glycol, an essential chemical for antifreeze and synthetic textile fibres.

* Trademark of The Dow Chemical Company

With the production capabilities of new world-scale plants at both Sarnia and Fort Saskatchewan, Dow Canada became a major exporter of plastics, organics and inorganic chemicals.

To serve export markets in the Pacific many preliminary steps were necessary. At Vancouver, Dow's West Coast Distribution Center was completed, giving the company tidewater access to Japan and the United States for ethylene dichloride, caustic soda and ethylene glycol manufactured in Fort Saskatchewan. In addition to the Vancouver facility there are seven other terminals in a Canada-wide network extending eastward to Botwood, Newfoundland.

Large volumes of products are shipped overland from the landlocked Fort Saskatchewan plant to the West Coast Distribution Center, as well as markets in Eastern Canada and the United States. Between 1978 and 1980 Dow Canada increased its rail car fleet from 1000 to 1800 cars. All cars were made in Canada. Although the majority of these handle increased shipments from Fort Saskatchewan, many are in service carrying product from the Sarnia Division and other plants. Dow Canada rail cars travelled 65 million kilometers in 1980, the equivalent of one trip around the world for each car. A computerized Rail Fleet Information system, developed by Dow, assists in the safe handling of products and rail cars.

Cochin Pipeline terminal at Sarnia: bringing surplus Alberta gas-based ethylene to Dow's Sarnia Division.

Dow product flow to domestic and export markets from strategically located western and eastern plants, Canada-wide network of terminals.

Marshalling yard with 25 km trackage on our Fort Saskatchewan site permits train make-up for greater safety, improved efficiency.

New rail car servicing facility at Sarnia Division, part of extensive maintenance and inspection program to ensure safety, product quality, and environmental protection.

Dow makes heavy R&D investments in Canada

1980 was a year of significant growth in research and development activity. With a capital program of just under $5 million and an operating expenditure of about $10 million, our research and development effort made Dow a leader not only in the chemical industry but within Canadian industry generally. According to a 1980 analysis by a major Canadian business newspaper, Dow Canada was the 15th largest private sector investor in R&D. An operating budget increase of 20 percent is planned for 1981.

A pilot plant for chloralkali process technology was completed in Sarnia. This makes Dow Canada a major center for this kind of research within the Dow global structure. At our Fort Saskatchewan site another pilot plant in support of ethylene oxide process technology was installed.

Eight new products were developed during 1980 by our Canadian research group to suit the special needs of the Canadian market.

In 1980 the Dow Petroleum Recovery Center was established in Edmonton to pursue product opportunities in various enhanced oil recovery technologies.

Another major product application effort was directed toward developing new uses for latex formulations to improve the conversion of certain Canadian resource materials to high value-added industrial products.

As a contribution to Canadian pulp and paper technology, Dow Canada established a three-year research fellowship with the Pulp and Paper Research Institute.

Construction of $2.8 million chemical process research laboratory at Sarnia Division began in '80, will be occupied in '81.

Customer technical service is important part of R&D activity. Developing, trialing and testing new plastic film resins combines Canadian know-how with Dow's global technological resources.

Analytical chemists today can routinely detect one part per billion, equivalent to one bad apple in 2 million barrels of 0.0000001 percent impurity. For certain compounds, analytical detection limits are now in the parts per trillion region, levels often far below any reasonably expected health risk. As capability improves, society will find that nearly everything is contaminated by trace amounts of nearly everything else. Above, a Dow scientist labels "spikes" representing various trace compounds detected in a spectrographic analysis.

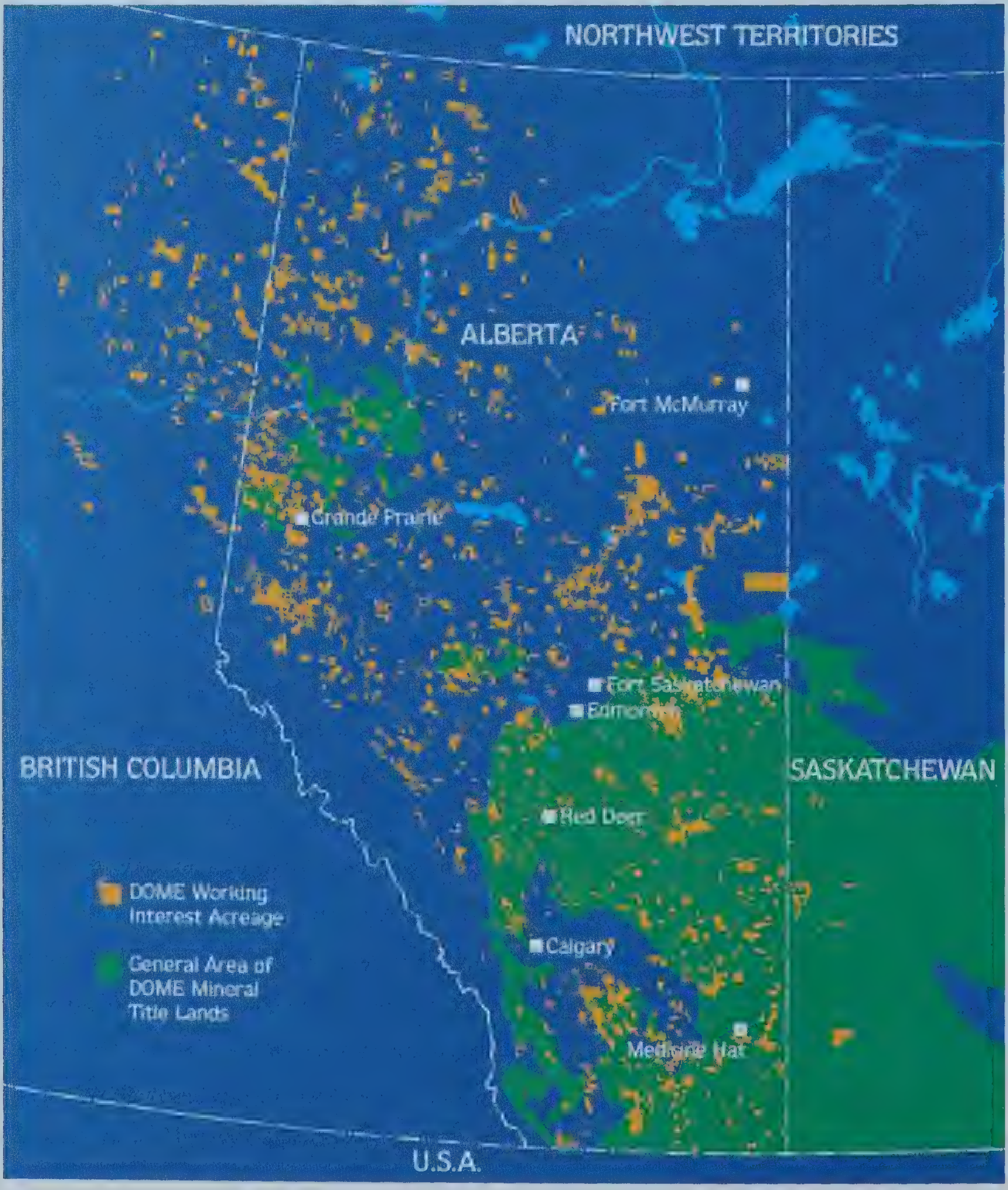
a fast growing part of Dow Canada

Dow Canada entered the oil and gas business actively in 1973 to make up any shortfall in the natural gas needs of the western ethylene plant project at Joffre, Alberta. The company's involvement began and continues as a joint venture with Dome Petroleum Limited. In 1974 it was expanded to include a 25 percent interest in all of Dome's onshore oil and gas activities in western Canada. In 1976 Maligne Resources Limited was incorporated as a wholly owned subsidiary of Dow Chemical of Canada, Limited. Today Maligne Resources, which is headquartered in Calgary, holds substantially all of Dow's oil and gas interests in western Canada.

In 1979 Maligne Resources and TCPL Resources (a subsidiary of Trans Canada Pipelines) formed a 50/50 partnership called MT Partnership.

In 1980 Maligne, through MT Partnership, participated in the completion of 994 wells. At year-end Maligne had interests in 23.3 million gross acres and 1.6 million net acres of land.

Maligne's share of MT Partnership's assets, combined with Dow's share of another small oil and gas venture, totalled 33 million barrels of oil and 481 billion cubic feet of gas at December 31, 1980, or 676 billion cubic feet of natural gas equivalent.



dramatic increase in sales

Dowell of Canada grew 40 percent in sales over last year, making a significant contribution to Dow Canada.

Headquartered in Calgary, Dowell provides cementing and stimulation (acidizing and fracturing) services to the Canadian oil and gas industry. Dowell of Canada's activities spread from the U.S. border to the Arctic Islands and from the British Columbia coast to Newfoundland.

Drilling of gas wells during the first half of the year continued at a good pace and was reflected in Dowell's exceptionally good performance. There was some threat in the latter part of the year of drilling rigs moving to the United States as a result of the National Energy Program. However, rig activity remained stable to the end of the year. In 1981 there has been a significant decrease in rig activity in western Canada.

Special mobile Dowell rigs perform highly skilled oil and gas well services on site, coaxing increased recovery from older wells.

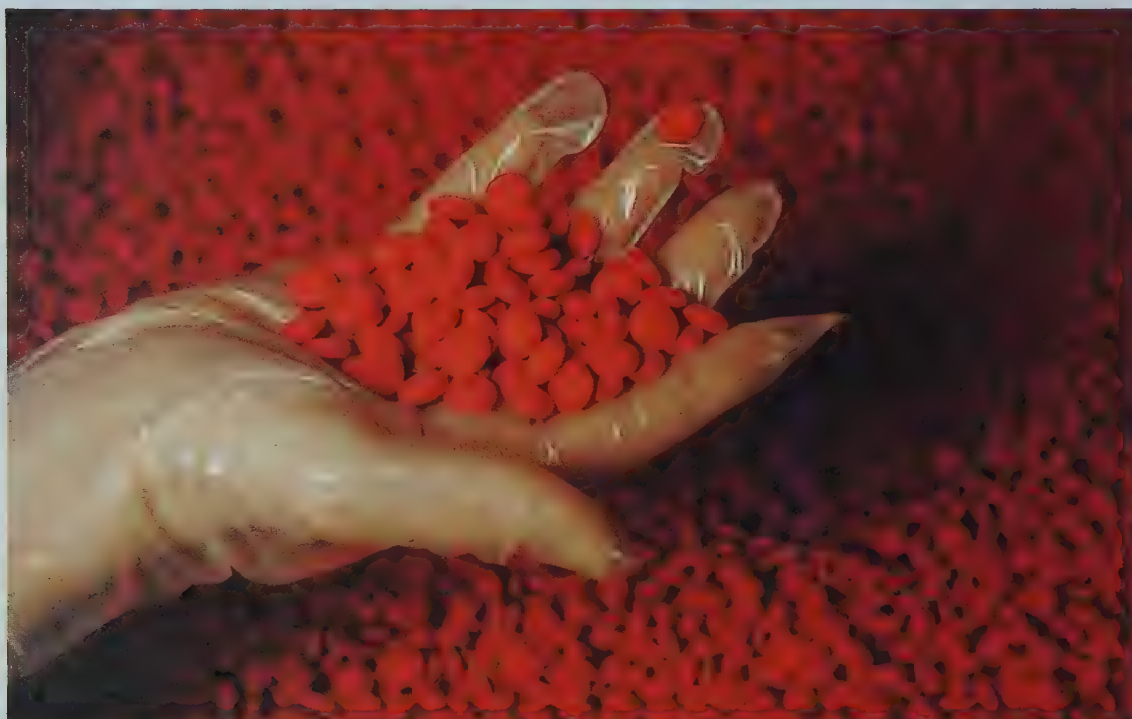
Energy resources: Canada's unique advantage is being enhanced by Dowell's services.

PHARMACEUTICALS...

business to double in Canada

Sales for Dow's pharmaceutical operations in Richmond Hill, Ontario were up 17 percent over 1979. Nicorette[1] anti-smoking aid, after only 18 months on the market, became the biggest volume pharmaceutical product in dollar terms for 1980. Sales of cough and cold prescription and proprietary products, custom-manufactured and bulk pharmaceutical products were other strong areas during the year.

On November 1, 1980 The Dow Chemical Company of Midland, Michigan announced a global agreement to buy Richardson-Merrell's ethical pharmaceutical business. The acquisition was finalized early in 1981. The Canadian acquisition is subject to review by the Foreign Investment Review Agency. As a result, Dow's pharmaceutical business in Canada is expected to double.



The Richmond Hill plant manufactures a wide range of ethical and over-the-counter products in tablet, capsule, liquid and ointment forms under Dow label and for others.

Available by prescription only, Nicorette has proven to be a remarkably successful aid for those who want to kick the smoking habit.

[1] Trademark of AB LEO, Helsingborg, Sweden

Quality control at Pharmaceuticals Division is rigorous, extensive, meets stringent regulations. Visual inspection is only one of many checks made.

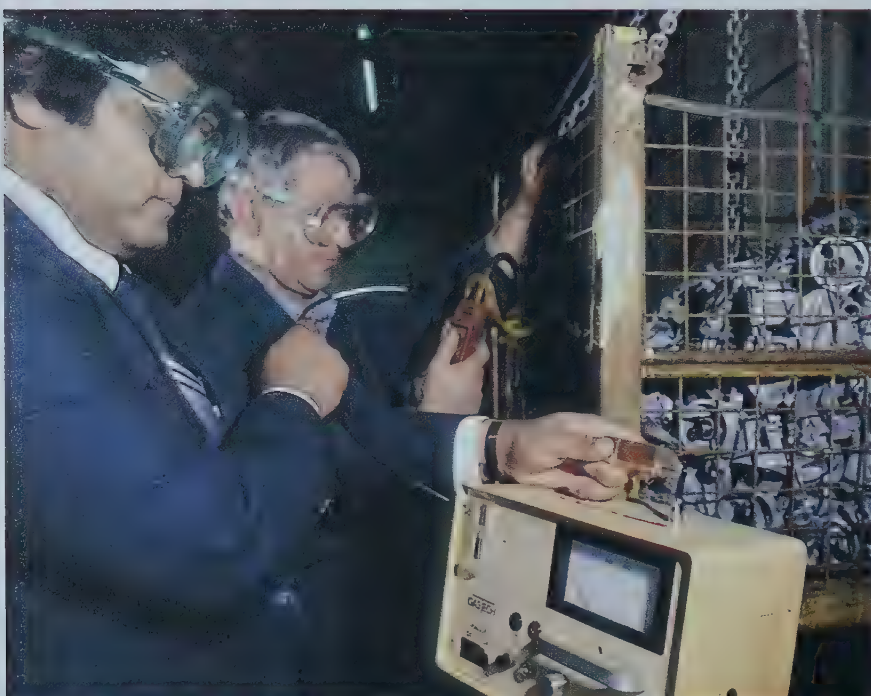
PRODUCT STEWARDSHIP...
an investment in our futures

Dow Chemical of Canada, Limited has a concern for all who make, distribute and use its products and for the environment in which we live. This concern is the basis for our Product Stewardship philosophy by which we assess the health and environmental information on our products and take appropriate steps to protect employee and public health and the environment. The success of this Product Stewardship program rests with every individual involved with Dow products - from the initial concept and research to manufacture, sale, distribution, use and disposal of each product.

Product Stewardship guidelines have set the highest practicable goals for Dow people in approaching the complicated problems of the research, development, manufacture, quality assurance, distribution and marketing of Dow products and services. These guidelines are not guarantees that we will achieve perfection in every area, but are goals that we will continually strive to attain. Product Stewardship includes the total involvement and personal dedication of all Dow Canada employees.

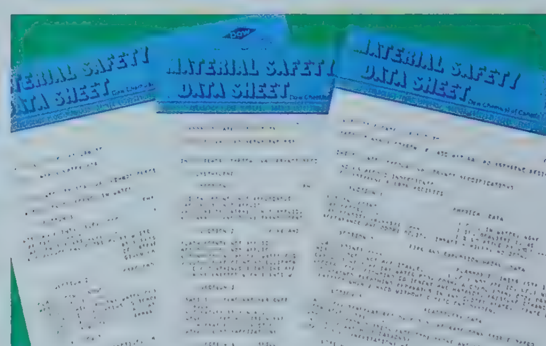
In manufacturing, comprehensive industrial hygiene monitoring programs and regular medical examinations keep a constant check on employee health.

Research and Development personnel provide a customer-plant monitoring service designed to alert clients to any human and environmental hazards that may exist in the way they use our products. In addition, all customers are kept up-to-date with complete information on the products they buy from us: physical properties, toxicology, safety equipment needed, medical data, first aid procedures and how to get fast help in an emergency. Parallel monitoring and safety-training programs are conducted for carriers, warehouse and terminal operators to ensure they meet our Product Stewardship standards.



Dow technicians measure degreasing solvent vapor concentration in a customer's plant to determine if a hazardous condition exists, part of an on-going monitoring program designed to ensure safe handling of Dow products after they leave our plant.

South western Ontario farmers get this complimentary safety kit with their 1980 purchases of Telone soil fumigant — chemical goggles, respirator, rubber gloves, hard hat.



Latest safety, toxicity data on products purchased is provided regularly to each customer by Dow, aided by the only computerized information system of its type in the world.

(Right) Computerized automatic air sampling and analysis equipment spotted throughout our plants, along fence lines, provide early warning alarms and continuous data for review.

SAFETY, HEALTH AND LOSS PREVENTION...
a priority of utmost importance

The safety and health of our people are paramount concerns. The frequency of serious injuries was down 17 percent from 1979. That was largely due to dedicated administration of basic safety programs and policies such as monthly safety meetings for all employees, safety audits at each workplace and incorporation of an individual employee's safety performance as part of his/her annual job performance evaluation. Training programs for new employees include detailed coverage of important safety and health topics.

Industrial Hygiene and Occupational Health

Professional industrial hygienists identify, measure, evaluate and control potential health hazards in the workplace. A network of coordinators in all plants is used to help gather needed data and to inform employees of essential measures for health protection.

During 1980 Industrial Hygiene participated in numerous Product Stewardship visits to customers' premises. Our hygienists were also involved in several transportation emergencies as members of Dow Emergency Response Teams. In this capacity they were able to ensure the protection of our Team members, other workers and the public from hazardous exposure to toxic materials.

The Occupational Health function increased its capability of on-site medical facilities and services to better meet the needs of a growing company. A new, modern Western Canada Division Health Center was opened at Fort Saskatchewan.

Loss Prevention

Loss Prevention in Dow Canada is the application of proven safety techniques to the design of plant and process equipment. It is aimed at preventing incidents that might affect people, equipment or the environment. Appropriate safety specialists meet with project teams to conduct comprehensive safety analyses. There are five steps in this procedure over a typical project life of about three years. The result is a plant built to the best known safety technology.

Intensive safety training for new plant employees, continuous programs for older hands, focus attention on preventing unsafe acts — precursors of accidents.

Regular physical examinations, extensive tests, are standard for all plant employees, optional for others, and all at company expense.

(Right) One of many Industrial Hygiene dept. functions in our plants is monitoring sound pressure levels, determining steps needed to protect worker health.


DOW

making profits while preserving the environment

Thanks to sound planning and engineering, Dow Canada was able to increase production by 53 percent over 1979 and at the same time achieve a decrease in total waste discharge. In fact, Dow Canada's efforts in environmental control have always met or exceeded government standards. A good example is the award-winning biological waste treatment facility in Ladner, B.C. started up 20 years ago. Such effluent treatment systems are now commonplace in the petrochemical industry.

Dow's preferred approach to controlling pollution is to reduce effluents and minimize the formation of unwanted by-products through process improvements. Preventing waste before it is created often makes more sense than removing pollutants by later adding costly treatment facilities.

Recent capital expansion projects have been a very cost-effective way to reduce waste generation. Older, less efficient plants have been replaced with world-scale ones incorporating the latest process design and waste control technology. Since 1973 ten older, smaller plants have been taken out of service and seven modern world-scale plants brought on stream.

Typical of these plants is the Fort Saskatchewan ethylene oxide/glycol plant, started up in 1980. Designed to meet the tough environmental standards of the eighties, waste management facilities in this plant represented about eight percent of the total capital cost.

Process water treatment and storage pond on Fort Saskatchewan plant site, where millions of liters are purified, recycled rather than becoming a waste material.

Not a suburban backyard but Dow's employee training center located in the midst of the Sarnia Division plant complex. Healthy shrubs, trees, flowers are testimony to the quality of the environment.

Sarnia Division's "green belt" surrounding the site has won many landscape awards, become a point of civic and employee pride.

Fingerling trout, a very sensitive species, are used to test effluent water for purity before it is returned to streams, rivers adjoining Dow plants.

Five Year Summary

	1980	1979	1978	1977	1976
			in millions of dollars unless otherwise stated		
Balance Sheet					
Working Capital	**$ 184.2**	$ 58.4	$ 38.7	$ 101.7	$ 4.8
Net Property	**842.0**	812.2	688.8	466.5	306.0
Other Assets	**271.7**	275.0	36.7	28.4	57.6
Investment	**$ 1297.9**	$ 1145.6	$ 764.2	$ 596.6	$ 368.4
Income Statement					
Sales	**$ 969.1**	$ 781.0	$ 538.0	$ 452.4	$ 390.9
Operating Income	**95.2**	86.8	49.2	60.9	56.8
Profit Before Tax	**50.2**	176.2*	7.7	40.7	58.9
*Includes gain on sale of $104.8 million on resource properties					
Other Statistics					
Total Assets	**$ 1519.1**	$ 1399.0	$ 920.4	$ 679.6	$ 514.3
Capital Expenditures	**130.7**	339.5	263.9	191.7	78.2
Depreciation and Amortization	**99.0**	54.1	37.8	31.2	25.7
Research and Development Expense	**10.1**	7.9	6.4	5.8	5.5
Number of Employees at Year End	**3982**	3747	3336	3039	2849
Salaries, Wages and Benefits	**112.3**	99.4	77.4	65.6	57.6

Note: Effective January 1, 1980 the company adopted the policy of capitalizing interest relative to acquisition of qualifying capital assets. The amount so capitalized during 1980 amounted to $7.2 million. Prior to 1980 these interest costs had been expensed.

Financial Statements

The following financial statements, which are in accordance with generally accepted Canadian accounting principles, cover the operations of Dow Chemical of Canada, Limited and its wholly owned subsidiaries. The annual report to shareholders of The Dow Chemical Company also provides certain financial data for Canada. While the information is similar to that contained in this report, there are certain differences; for example, The Dow Chemical Company reports in U.S. dollars while we report in Canadian dollars. Also there are various credits and charges passed from one geographic area to another for management purposes which are not reflected in the audited financial statements. The greatest differences between the two reportings is in foreign exchange gains or losses and while these may appear to be substantial in our operations they are mostly unrealized and have a minor impact when consolidated with the parent company.

Auditors Report

To the Stockholders of
Dow Chemical of Canada, Limited:

We have examined the consolidated balance sheets of Dow Chemical of Canada, Limited and its subsidiary companies as of December 31, 1980 and 1979 and the consolidated statements of income, retained earnings and changes in financial position for the years then ended. Our examinations were made in accordance with generally accepted auditing standards, and accordingly included such tests and other procedures as we considered necessary in the circumstances.

In our opinion, these consolidated financial statements present fairly the financial position of the company as at December 31, 1980 and 1979 and the results of its operations and the changes in its financial position for the years then ended in accordance with generally accepted accounting principles applied, except for the adoption of the policy of capitalizing interest on qualifying assets as explained in the accounting principles, on a consistent basis.

Deloitte Haskins & Sells

Chartered Accountants

Toronto, Canada
January 30, 1981

Accounting Principles

Consolidation

The accompanying consolidated statements include the accounts of the company and its undernoted subsidiairies, all of which are wholly-owned:

Maligne Resources Limited
Dow Pipeline Ltd.

Translation of foreign currency

U.S. dollars are translated into Canadian dollars as follows: amounts receivable and payable in U.S. dollars at the year-end rate of exchange; revenues and expenses at the rate prevailing at the date of the transaction. Gains and losses on currency translations are included in income.

Inventories

Inventories are stated at the lower of cost and market. Cost is detemined on the last-in, first-out basis.

Market value is determined as follows:

Materials and supplies — replacement cost;
Work in process and finished goods — net realizable value.

Investment in associated companies

The company follows the equity method of accounting for its 20% equity interest in Lawrason's Chemicals Ltd. and its 50% equity interest in Wabiskaw Explorations Ltd. as well as its 50% interest in MT Partnership, an unincorporated joint venture.

Property and depreciation

Land, buildings and equipment are at cost. Depreciation is based on the estimated service lives of depreciable assets and is provided for using the declining-balance method.

Deferred charges and other assets

Deferred charges and other assets are recorded at cost less accumulated amortization.

Capitalized interest

Effective January 1, 1980 the company adopted the policy of capitalizing interest relative to acquisition of qualifying capital assets. The amount so capitalized during 1980 amounted to $7.2 million. The purpose of interest capitalization is to include the financing costs as part of the historical cost of acquiring an asset during that time necessary to bring the asset to the condition and location necessary for its intended use. Prior to 1980 these interest costs had been expensed.

Income taxes

The company computes and records income taxes currently payable based on its determination of taxable income which differs from pre-tax accounting income. The differences, consisting principally of depreciation, the provision for LIFO inventory reserve and the provision for abandonment of petroleum and gas interests, arise from recording in pre-tax accounting income transactions which enter into the determination of taxable income in another period. The tax effect of these timing differences is recognized currently by adjustment to the provision for taxes.

Retirement plans

The company has plans which provide retirement benefits for substantially all full-time employees. The policy is to accrue and fund pension costs as computed by an actuary.

Consolidated Statement of Income

Year ended December 31	1980	1979
	thousands of dollars	
Net Sales (including sales to affiliated companies - 1980 - $133,457; 1979 - $62,510)	**$ 969,120**	$ 781,005
Income from Operations	**$ 95,153**	$ 86,786
Interest and Miscellaneous Income	**15,605**	30,067
Gain on Sale of Resource Properties (Note 4)	—	104,804
Equity in Net Income of Associated Companies	**669**	1,476
Total	**111,427**	223,133
Interest and Other Expenses (including interest on long-term debt, 1980 - $45,294 net of capitalized interest of $7,212; 1979 - $43,105)	**61,220**	46,892
Income before Provision for Taxes on Income	**50,207**	176,241
Provision for Taxes on Income (Note 5)	**22,299**	62,565
Net Income for the Year	**$ 27,908**	$ 113,676

Consolidated Statement of Retained Earnings

Year ended December 31	1980	1979
	thousands of dollars	
Balance at Beginning of the Year	**$ 300,732**	$ 187,056
Net Income for the Year	**27,908**	113,676
Balance at End of the Year	**$ 328,640**	$ 300,732

See Accounting Principles and Notes to Consolidated Financial Statements.

Consolidated Balance Sheet

As at December 31

Assets

	1980	1979
	thousands of dollars	
Current Assets:		
Cash	**$ 296**	$ 265
Accounts and notes receivable (including affiliated companies, 1980 - $26,689; 1979 - $16,229)	**184,856**	160,471
Income taxes recoverable	**1,645**	—
Inventories (Note 1):		
Finished and in process	**126,710**	85,984
Materials and supplies	**81,073**	56,939
Deferred income taxes	**10,859**	8,194
Total current assets	**405,439**	311,853
Investments and Non-Current Receivables	**18,181**	27,226
Investments in Associated Companies	**223,073**	223,929
Property (Note 2)	**1,191,441**	1,077,029
Less accumulated depreciation	**349,476**	264,849
Net property	**841,965**	812,180
Deferred Charges and Other Assets	**30,429**	23,832
Total	**$1,519,087**	$1,399,020

Approved by the Board:

Signed by:
C.L. Mort, director
T.F. Kenny, director

See Accounting Principles and Notes to Consolidated Financial Statements.

Liabilities and Stockholders' Equity

	1980	1979
	thousands of dollars	
Current Liabilities:		
Notes payable — parent company	**$ 17,920**	$ 20,091
Accounts payable and accrued liabilities (including affiliated companies, 1980 - $72,919; 1979 - $76,884)	**203,275**	228,426
Income taxes payable	**—**	4,892
Total current liabilities	**221,195**	253,409
Long-Term Debt (Note 3)	**725,942**	628,422
Deferred Income Taxes	**163,772**	136,919
Stockholders' Equity:		
Capital stock:		
Authorized (Note 12):		
An unlimited number of preference shares redeemable at $100 each with $6 non-cumulative dividend, and an unlimited number of common shares, all without par value		
Issued and outstanding:		
250,000 preferred shares	**25,000**	25,000
509,930 common shares	**54,538**	54,538
Total capital stock	**79,538**	79,538
Retained earnings	**328,640**	300,732
Total stockholders' equity	**408,178**	380,270
Total	**$1,519,087**	$1,399,020

See Accounting Principles and Notes to Consolidated Financial Statements

Consolidated Statement of Changes in Financial Position

Year ended December 31	1980	1979
	thousands of dollars	
Working Capital Provided:		
From operations:		
Net income for the year	$ 27,908	$ 113,676
Items not affecting working capital:		
Equity in net income of associated companies	(669)	(1,476)
Provision for abandonment of oil and gas interests	434	815
Depreciation and amortization	98,990	54,091
Deferred income taxes	26,853	62,753
Provided from operations	153,516	229,859
Decrease in investments in associated companies	1,525	—
Decrease in investments and non-current receivables	9,045	—
Net increase in long-term debt	97,520	204,913
Disposal of property	1,465	161,262
Total working capital provided	263,071	596,034
Working Capital Applied:		
Additions to property	130,674	339,516
Increase in deferred charges and other assets	6,597	1,005
Increase in investments and non-current receivables	—	24,502
Increase in investments in associated companies	—	211,313
Total working capital applied	137,271	576,336
Increase in Working Capital for the Year	$ 125,800	$ 19,698
Increase in Current Assets:		
Cash	$ 31	$ 46
Accounts and notes receivable	24,385	43,825
Income taxes recoverable	1,645	—
Inventories	64,860	70,592
Deferred income taxes	2,665	2,563
Decrease (Increase) in Current Liabilities:		
Notes payable — parent company	2,171	(20,091)
Notes payable — other	—	4,000
Accounts payable and accrued liabilities	25,151	(78,092)
Income taxes payable	4,892	(3,145)
Increase in Working Capital for the Year	$ 125,800	$ 19,698

See Accounting Principles and Notes to Consolidated Financial Statements

Notes to Financial Statements

1. Inventories: If the first-in, first-out method of inventory valuation had been used by the company, inventories would have been $41.4 million and $26.7 million higher than reported at December 31, 1980 and 1979 respectively.

2. Property and Depreciation: Details of property and accumulated depreciation are as follows:

		1980		1979	
	Depreciation Rate	Cost	Accumulated Depreciation	Cost	Accumulated Depreciation
			thousands of dollars		
Land	—	**$11,778**	**$ —**	$ 11,276	$ —
Land and waterway improvements	10%	**24,084**	**6,072**	18,906	4,431
Buildings	5%	**106,973**	**30,493**	85,028	24,309
Machinery and equipment	10% - 20%	**963,908**	**312,302**	784,206	235,691
Construction in progress	—	**78,898**	**—**	175,630	—
Other	Varying rates	**5,800**	**609**	1,983	418
		$1,191,441	**$349,476**	$1,077,029	$264,849

3. Long-term Debt: Details of long-term debt are as follows:

	1980		1979	
	U.S. $	Cdn. $	U.S. $	Cdn. $
		thousands of dollars		
Dow Chemical of Canada, Limited, Series A and B variable rate income debentures due 1983 through 1987 — $50 million each year	**$ —**	**$ 250,000**	$ —	$ 250,000
Notes payable to parent company:				
8% due 2008	**$ 140,500**	**167,855**	$ 140,500	164,118
6% due 2009	**$ 179,800**	**214,807**	$ 179,800	210,024
11% due 2010	**$ 75,000**	**89,603**	$ —	—
Loans payable, 6% due 1982	**$ 802**	**958**	$ 2,123	2,481
Capitalized lease obligations due in future years	**$ —**	**2,719**	$ —	1,799
		$ 725,942		$ 628,422

4. Gain on sale of resource properties: Maligne Resources Limited, a wholly-owned subsidiary of the company, owned a 25 percent undivided interest in a portion of the onshore oil and gas properties of Dome Petroleum Limited under the terms of a 1974 agreement. In December 1979, Maligne exercised its right to acquire a like interest in significant additional onshore properties from Dome. Maligne then sold a half interest in essentially all of its oil and gas interests to TCPL Resources Ltd., a wholly-owned subsidiary of TransCanada Pipe Lines Limited. One of the conditions of sale is that certain areas under active exploration have provision for re-evaluation of purchase prices in 1981 and 1982. Using the tentative contract prices, the transaction resulted in a pre-tax gain of $104.8 million ($65.3 million after tax).

Maligne and TCPL Resources then entered into a joint venture (MT Partnership) in which each party contributed their oil and gas properties as the initial investment. The joint venture pursues acquisition, exploration and development programs intended to increase the existing hydrocarbon reserves.

5. **Income taxes:** The provision for taxes on income in 1980 and 1979 is lower than the normal statutory rate primarily because of the effect of investment tax credits and deductions allowed for tax purposes with respect to profits generated from "resource" properties.

6. **Contingent liabilities:** Several damage suits relating to alleged product defects are currently outstanding. The company has made provision for its estimated liability with respect to such actions.

   MT Partnership has pledged an undivided 50% share of its assets on behalf of Maligne Resources Limited. These assets consist primarily of oil and gas properties, related equipment and accounts receivable and serves as security for loans which amount to $68.5 million Canadian and $86 million U.S. ($102.7 million Canadian) as at December 31, 1980. As a general partner of MT Partnership, Maligne Resources Limited may be liable for any deficiencies which may arise in meeting the terms of the loans.

   During 1980, the company received Federal income tax reassessments for the taxation years 1976 and 1977 which, combined with expected Provincial reassessments, amount to approximately $3.5 million. The company has filed Notices of Objection to these reassessments. Such reassessments reflect intercompany pricing adjustments proposed by Revenue Canada Taxation. Any additional taxable income resulting from adjustments of this nature in Canada would result in a corresponding reduction in the taxable income of The Dow Chemical Company, the parent company resident in the United States. Adjustments, if any, arising from the settlement of these reassessments are expected to be accounted for as prior period adjustments.

7. **Contractual obligations:** Contractual obligations for the extension of plant and purchase of equipment amounted to approximately $29.9 million at December 31, 1980 and $19.4 million at December 31, 1979.

   As of December 31, 1980 the company is committed to purchase $258.7 million Canadian dollars by selling U.S. dollars via foreign exchange contracts. Any losses on foreign exchange contracts to the year end have been fully provided for in these financial statements.

   The company entered into a 20-year agreement, commencing 1978, to purchase substantially all of the output of an ethylene plant in the Province of Alberta. The purchase price of the output is determined on a cost-of-service basis which, in additon to covering all operating expenses, provides the owner of the plant (The Alberta Gas Ethylene Company Ltd.) a specified return on capital. The Alberta Gas Ethylene Company Ltd. has borrowed $257 million U.S. dollars which has been guaranteed as to principal and interest by The Dow Chemical Company, Midland, Michigan.

8. **Classes of business:** In accordance with the requirements of the Canada Business Corporations Act, the following information is reported:

	Sales	
	1980	1979
	thousands of dollars	
Chemicals	**$ 652,683**	$ 496,641
Plastics	**268,050**	241,546
All others	**48,387**	42,818
	$ 969,120	$ 781,005

9. **Leased properties:** Minimum rental commitments under non-cancellable leases, substantially all of which pertain to manufacturing facilities and transportation equipment, are as follows:

	Capital Leases	Operating Leases
	thousands of dollars	
1981	$ 499	$ 11,992
1982	1,151	11,780
1983	657	11,418
1984	543	10,986
1985	271	10,103
Subsequent years	907	90,720
	4,028	146,999
Less:		
Executory costs	299	—
Interest	757	—
Unpaid lease obligation	$ 2,972	$ 146,999

10. **Retirement plans:** All the retirement plans administered by the company were fully funded at year end. An actuarial gain of $7.2 million was recognized in 1980 in calculating the cost of pensions.

11. **Related party transactions:** Dow Chemical of Canada, Limited is a wholly-owned subsidiary of The Dow Chemical Company. Significant transactions with The Dow Chemical Company and its subsidiaries not disclosed in the accompanying financial statements were as follows:

	1980	1979
	thousands of dollars	
Purchased goods and services	**$ 157,070**	$ 180,907
Interest expense	**$ 34,034**	$ 24,396

Transactions with those entities accounted for on the equity basis are not significant in relation to the company's overall activities.

12. **Articles of continuance:** During the year ended December 31, 1980, the company continued under the Canada Business Corporations Act. Under the Act, shares cannot have a par value. Accordingly, shares previously with a par value are now designated as without par value.

13. **Subsequent event:** On January 1, 1981, MT Partnership transferred back to Maligne Resources Limited certain non-producing oil and gas properties which were originally contributed by or purchased from Maligne, at their original cost to Maligne.

Board of Directors
James M. Hay, president and chief executive officer
Clifford L. Mort, chairman of the board of directors
Murray N. Trask, vice president, Manufacturing
Gerald W. Pearson, vice president, Commercial
Robert T. Boldt, vice president, Operating Services
E. Leonard Weldon, Q.C., vice president and secretary
Thomas F. Kenny, treasurer
Robert E. Naegele, group vice president
The Dow Chemical Company
Midland, Michigan

Management
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Murray N. Trask, vice president, Manufacturing
Gerald W. Pearson, vice president, Commercial
Robert T. Boldt, vice president, Operating Services
E. Leonard Weldon, Q.C., vice president and secretary
Thomas F. Kenny, treasurer
Edward T. Wall, controller
L. Malcolm Tod, director, Research and Development
Donald R. Stephenson, director, Corporate Communications
Gordon C. Redford, manager, Area Employee Relations

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SARNIA, ONTARIO, P.O. Box 3030, Sarnia, Ontario, N7T 7M1
THUNDER BAY, ONTARIO, P.O. Box 820 - Station "F", Thunder Bay, Ontario, P7C 4X7
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